

What is claimed is:

1. A method of treating patients with neuropsychiatric disorder, which comprises the step of stimulating a patient's vagus nerve with an electrical pulse signal applied directly or indirectly thereto at a location in the immediate vicinity of the patient's diaphragm, including selectively programming electrical and timing parameters of said electrical pulse signal according to a predetermined therapy regimen for alleviating the disorder.

2. The method of claim 1, wherein the step of stimulating the patient's vagus nerve comprises performing unilateral supra- or sub-diaphragmatic stimulation of either the left branch or the right branch of the vagus nerve.

3. The method of claim 1, wherein the step of stimulating the patient's vagus nerve comprises performing bilateral supra- or sub-diaphragmatic stimulation of the left and right branches of the vagus nerve.

4. The method of claim 1, including implanting at least one signal generator and electrodes operatively coupled thereto for generating and applying said electrical signal to the vagus nerve at said location.

5. The method of claim 1, including implanting at least one signal generator and

electrodes operatively coupled thereto for generating and applying said electrical signal internally to a portion of the patient's nervous system other than the vagus nerve to indirectly stimulate the vagus nerve at said location.

6. The method of claim 1, wherein said stimulating electrical signal comprises a sequence of electrical pulses.

7. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal to the vagus nerve at a location in a range of from about two to about three inches above to about two to about three inches below the patient's diaphragm.

8. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal intermittently, in alternating on and off intervals according to a predetermined duty cycle.

9. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal continuously.

10. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal according to the patient's circadian rhythm.

11. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal bilaterally and synchronously to both branches of the vagus nerve.

12. The method of claim 1, wherein the step of stimulating comprises applying said electrical signal non-invasively to a portion of the patient's nervous system other than the vagus nerve to indirectly stimulate the vagus nerve at said location.

13. The method of claim 1, including programming for initiation of the electrical stimulation by the patient upon sensing a symptom characteristic of onset of the disorder, to trigger application of said stimulating electrical pulse signal to the vagus nerve at said location.

14. A method of treating patients exhibiting neuropsychiatric disorder, including, among others, schizophrenia, depression, or borderline personality disorder, which comprises the steps of:

implanting at least one programmable electrical pulse generator in the patient together with at least one electrical lead having at least one distal nerve electrode and at least one proximal electrical connector operatively coupled to said pulse generator,

implanting a distal nerve electrode of a said electrical lead on at least one branch of the vagus nerve at a location slightly above or below the patient's diaphragm, and

activating said pulse generator to stimulate said branch of the vagus nerve with electrical pulses according to a programmed regimen to ameliorate the disorder.

15. The method of claim 14, including programming the implanted pulse generator to adjust the electrical parameters and application times of the pulsed electrical signal.

16. The method of claim 14, including implanting said at least one nerve electrode at said location on one of the right and left branches of the vagus nerve in a range of from approximately two inches to approximately three inches above the patient's diaphragm to approximately two inches to approximately three inches below the patient's diaphragm.

17. The method of claim 14, including implementing said pulse generator to enable patient activation thereof to stimulate said branch of the vagus nerve with electrical pulses according to said programmed regimen.

18. A method of treating patients suffering from neuropsychiatric disorder by stimulating a selected cranial nerve of the patient with an electrical signal applied to induce a signal up the nerve toward the brain from a location in the vicinity of the patient's diaphragm, including programming electrical and timing parameters of said electrical signal to alleviate said disorder.

19. The method of claim 18, including applying said electrical signal directly to the selected cranial nerve at a location substantially immediately above or below the diaphragm.

20. The method of claim 18, including applying said electrical signal internally to a portion of the patient's nervous system remote from the selected cranial nerve to indirectly stimulate the selected cranial nerve at said location.

21. The method of claim 18, wherein said stimulating electrical signal comprises a sequence of electrical pulses.

22. The method of claim 18, wherein the step of stimulating comprises applying said electrical signal to the selected cranial nerve at said location in a range of from about two to about three inches above or below the patient's diaphragm.

23. Apparatus for treating patients suffering from a specified neuropsychiatric disorder, comprising a pulse generator sanctioned by government authority for implantation in a patient together with electrode means to stimulate a selected cranial nerve of the patient with a predetermined sequence of electrical impulses from said pulse generator applied to the selected cranial nerve at a location in a range from about two to about three inches above or below the patient's diaphragm, for ameliorating symptoms of the specified neuropsychiatric disorder in the patient.

24. The apparatus of claim 23, wherein said pulse generator is programmable to

enable physician programming of the electrical and timing parameters of said sequence of electrical impulses.

25. The apparatus of claim 23, wherein the selected cranial nerve is the vagus nerve, and said electrode means comprises at least one nerve electrode for implantation on the patient's vagus nerve for direct stimulation thereof at said location.

26. The apparatus of claim 25, wherein said electrode means comprises a pair of nerve electrodes for implantation of a respective one of said pair on left and right branches of the patient's vagus nerve for direct bilateral stimulation thereof at said location.

27. The apparatus of claim 23, wherein said electrode means comprises at least one electrode for implantation internally to a portion of the patient's nervous system remote from the selected cranial nerve to indirectly stimulate the selected cranial nerve in the vicinity of said location.

28. The apparatus of claim 23, including means associated with the pulse generator for enabling patient activation of the pulse generator to stimulate the selected cranial nerve in the vicinity of said location.